

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

KOSUGA et al

Serial No.:

Filed: March 12, 2001

For: WORK CHUCKING/INSERTING APPARATUS  
AND ASSEMBLING UNIT

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Please amend the captioned application as follows:

IN THE CLAIMS:

Please rewrite claims 6-9 and 14-16 as follows:

6. (Amended) A work chucking/inserting apparatus according to claim 1, further including a tracer mechanism which, when the outer surfaces of said chuck fingers or of said hole position detecting fingers come into contact with the inlet of said insertion hole, causes the axis of a conical surface defined by the outer surfaces of said three or more chuck fingers or of said three or more hole position detecting fingers to be aligned with the axis of said insertion hole.

7. (Amended) A work chucking/inserting apparatus according to claim 1, further including a pushing mechanism for pushing said work toward said insertion hole.

8. (Amended) A work chucking/inserting apparatus according to claim 1, wherein the inlet of said insertion hole is chamfered, and tip end portions of said chuck fingers are respectively formed with projections which can fill up the chamfered portion when said work is inserted into said insertion hole.


9. (Amended) A work chucking/inserting apparatus according to claim 1, wherein said work is a piston or an assembly of a piston and a connecting rod, and said insertion hole is a cylinder bore.

14. (Amended) A work chucking/inserting apparatus according to claim 11, wherein said work is a piston or an assembly of a piston and a connecting rod, and said insertion hole is a cylinder bore.

15. (Amended) A work chucking/inserting apparatus according to claim 11, wherein said pushing mechanism possesses a work sucking function for sucking said work.

16. (Amended) An assembling unit comprising a robot which conveys the work chucking/inserting apparatus described in claim 1 up to the position of said insertion hole and which controls the posture of the work chucking/inserting apparatus so that said work is inserted into said insertion hole in alignment with the hole.

Respectfully submitted,

  
George A. Loud  
Reg. No. 25,814

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LORUSSO & LOUD  
3137 Mount Vernon Avenue  
Alexandria, VA 22305

(703) 739-9393

6. (Amended) A work chucking/inserting apparatus according to claim 1 [any of claims 1 to 5], further including a tracer mechanism which, when the outer surfaces of said chuck fingers or of said hole position detecting fingers come into contact with the inlet of said insertion hole, causes the axis of a conical surface defined by the outer surfaces of said three or more chuck fingers or of said three or more hole position detecting fingers to be aligned with the axis of said insertion hole.

7. (Amended) A work chucking/inserting apparatus according to claim 1 [any of claims 1 to 6], further including a pushing mechanism for pushing said work toward said insertion hole.

8. (Amended) A work chucking/inserting apparatus according to claim 1 [any of claims 1 to 7], wherein the inlet of said insertion hole is chamfered, and tip end portions of said chuck fingers are respectively formed with projections which can fill up the chamfered portion when said work is inserted into said insertion hole.

9. (Amended) A work chucking/inserting apparatus according to claim 1 [any of claims 1 to 8], wherein said work is a piston or an assembly of a piston and a connecting rod, and said insertion hole is a cylinder bore.

14. (Amended) A work chucking/inserting apparatus according to claim 11 [any of claims 11 to 13], wherein said work is a piston or an assembly of a piston and a connecting rod, and said insertion hole is a cylinder bore.

15. (Amended) A work chucking/inserting apparatus according to claim 11 [any of claims 11 to 14], wherein said pushing mechanism possesses a work sucking function for sucking said work.

16. (Amended) An assembling unit comprising a robot which conveys the work chucking/inserting apparatus described in claim 1 [any of claims 1 to 15] up to the position of said insertion hole and which controls the posture of the work chucking/inserting apparatus so that said work is inserted into said insertion hole in alignment with the hole.